NASA Weekly Update

Week of May 22-26, 2006

5-24-06: GOES-N Successfully Launched: GOES-N lifted off aboard a Boeing Delta IV rocket from Space Launch Complex 37 at Cape Canaveral Air Force Station, Fla. at 6:11 pm EDT. After GOES-N reaches

GOES-N lifted off aboard a Boeing Delta IV rocket from Space Launch Complex 37 at Cape Canaveral Air Force Station, Fla. at 6:11 pm EDT.

its geosynchronous orbit of approximately 22,300 miles and a successful post-launch checkout is performed, the satellite will be placed in an on-orbit storage mode where it will be able to more rapidly replace a failure of any existing operational GOES. For more information on GOES-N on the Internet, visit: http://www.nasa.gov/mission_pages/goes-n/main/index.html.

5-22-06: NASA Names Scales Associate Administrator for Institutions and Management: NASA Deputy Administrator Shana Dale announced Monday Charles H. Scales as the new associate administrator for the Office of Institutions and Management. In his new position, Scales manages the operational and management support activities across the agency. He also ensures the agency work force, infrastructure, and facility capabilities are working together in support of NASA's long-range needs.

5-25-06: NASA Sets Space Shuttle Program Update on May 31: NASA managers will brief media about the status of the Space Shuttle Program and the next shuttle mission, designated STS-121, at 3 p.m. EDT Wednesday, May 31. The news conference will be carried live on NASA Television and on the Web from the Kennedy Space Center, Fla. Questions will be taken from media at participating NASA locations. The participants will be:
-- Wayne Hale, Space Shuttle Program manager
-- Mike Leinbach, NASA launch director
For digital downlink and NASA TV information, including links to streaming video, visit: http://www.nasa.gov/ntv. For more information about the STS-121 mission and its crew, visit: http://www.nasa.gov/shuttle.

5-24-06: New Space Observations Poised to Save Lives from Floods, Landslides: Using NASA's advanced Earth-observing satellites, scientists have discovered a new opportunity to build early detection systems that might protect thousands from floods and landslides. This potential breakthrough in disaster monitoring and warning links satellite observations of soil type, vegetation and land slope with observations of rainfall, rivers and topography. For information, images, and research abstracts from the news briefing on May 24, visit: http://www.nasa.gov/vision/earth/lookingatearth/springagu_2006.html.

5-24-06: NASA Set to Welcome European Space Station Component: The European Space Agency's research laboratory, designated Columbus, will arrive at NASA's Kennedy Space Center in Florida on May 30. There it will be prepared for delivery to the International Space Station on a future space shuttle mission. NASA will hold a series of media events from May 31 to June 2 in conjunction (*cont'd on pg. 2)*

with the lab's arrival. Video highlights of the Columbus arrival activities will air on the NASA TV Video File segment on the Media Channel the afternoon of June 2. For digital downlink information, visit: http://www.nasa.gov/ntv. For further information on Columbus and the International Space Station, visit: http://www.nasa.gov/station.

Weekly Status Reports

Shuttle

Discovery (OV-103)
Mission: STS-121 - 18th International Space Station Flight (ULF1.1) - Multi-Purpose Logistics Module
Vehicle: Discovery (OV-103)
Location: Launch Pad 39B
Launch Date: Launch Processing Window July 1-19, 2006
Launch Pad: 39B
Crew: Lindsey, Kelly, Sellers, Fossum, Nowak, Wilson and Reiter Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

Technicians continue performing system testing on Space Shuttle Discovery while the vehicle is powered at Launch Pad 39B. Auxiliary power units No. 1 and 3 connections and leak checks were completed, with No. 2 in progress. The orbiter payloads were installed in Discovery's payload bay on Wednesday. Discovery's payloads include the Italian-built logistics module Leonardo, which will carry food, clothing, spare parts and research equipment to the International Space Station. Other payloads include two cargo carriers which contain heat shield tile samples, a spare pump module and a replacement mobile transporter reel assembly. There is no significant holiday weekend work planned.

Atlantis (OV-104)
Mission: STS-115 - 19th International Space Station Flight (12A) -
P3/P4 Solar Arrays
Vehicle: Atlantis (OV-104)
Location: Orbiter Processing Facility Bay 1
Launch Date: No earlier than Aug. 28, 2006
Launch Pad: 39B
Crew: Jett, Ferguson, Tanner, Burbank, MacLean and Stefanyshyn-Piper Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

In Orbiter Processing Facility bay 1, technicians are carrying out powered-up system testing on Atlantis for its mission to the International Space Station. Gaseous nitrogen leak checks are finished in the orbiter's mid-body. The remote manipulator system, or "shuttle arm," was installed and functional testing has been completed. Workers also finished testing the manipulator positioning mechanisms, which are the pedestals that hold the arm in place in the payload bay during launch and landing. On Wednesday, the crawler transporter moved mobile launcher platform No. 2 into high bay 3 of the Vehicle Assembly Building in preparation for stacking operations to begin for the STS-115 mission. The first solid rocket booster segment is scheduled to be lifted into the high bay next week.

Endeavour (OV-105)
Powered-up system testing continues on Endeavour in Orbiter Processing Facility bay 2 following an extensive modification period. Following external airlock installation, the team completed connector mates on Thursday and pick up with the docking system functional next week. Main propulsion system leak and functional testing continues.

International Space Station (ISS)

The residents of the International Space Station turned their attention to spacewalk preparations this week as they gear up for a six-hour excursion outside the complex June 1. During the spacewalk, the crew will repair and retrieve U.S. and Russian hardware. Expedition 13 Commander Pavel Vinogradov and NASA Flight Engineer and Science Officer Jeff Williams gathered equipment for the spacewalk, charged batteries for the Russian Orlan suits they will wear and checked out systems in the Pirs Docking Compartment airlock.

Astronaut Soichi Noguchi, STS-114 mission specialist representing Japan Aerospace Exploration Agency (JAXA), participates in the mission's first scheduled session of extravehicular activity (EVA).

The spacewalk will be staged from Pirs. This will be the 65th spacewalk in support of station assembly and maintenance and the 18th conducted from this airlock. This will be the sixth spacewalk in Vinogradov's career and the second for Williams. (*cont'd on pg. 3)*

The crew members will climb into their spacesuits next Tuesday to test their mobility and to handle tools they will use while conducting their work outside. Vinogradov and Williams shifted their wake and sleep cycles this week to match the hours they will work on June 1. They will enjoy some off-duty time this weekend before resuming spacewalk preparations on Monday, with final communications and systems checks on their suits. During the spacewalk the crew will install a new hydrogen vent valve on the hull of the Zvezda Service Module to bypass a similar valve that is clogged. The vent valve is part of the Russian Elektron oxygen-generation system that separates oxygen and hydrogen from water in the device's plumbing unit. The oxygen is then circulated into the cabin atmosphere while hydrogen is released overboard.

The spacewalkers will also recover a thruster residue collection device from Zvezda, retrieve a contamination monitoring device and a package of biology experiments and reposition a (*cont'd on pg. 3)* cable for a navigation antenna on the aft end of Zvezda to be used next year for the unpiloted rendezvous and docking of the new European Automated Transfer Vehicle. Williams will also replace a camera on the station's Mobile Base System railcar that moves up and down the truss of the complex. A Mission Status Briefing to preview the spacewalk will be broadcast on NASA Television at 2 p.m. EDT May 30 with question-and-answer capability for reporters at NASA centers. Coverage of the spacewalk on NASA TV begins at 5:30 p.m. EDT June 1. On the maintenance front, Vinogradov this week finished replacing a gas analyzer device for the Russian carbon dioxide removal system, known as Vozdukh. It had been operating at a slightly decreased rate in cleansing carbon dioxide from the cabin atmosphere. Russian specialists reactivated the system following the installation of the new gas analyzer. Vozdukh is now operating normally.

As part of the Crew Earth Observations experiment, Williams snapped the first shots of the Cleveland volcano erupting on the Aleutian Islands in Alaska. From their perspective in orbit, astronauts have been the first to spot and confirm the volcanic eruptions on several occasions. This is the first early sighting of a new eruption in recent years. On Tuesday, Williams discussed the progress of his mission with the Associated Press Television Network and conducted an amateur radio discussion with students at a school in Venice, Italy. Williams began runs of an experiment, designated the Investigating the Structure of Paramagnetic Aggregates from Colloidal Emulsions, or InSPACE. The fluid physics experiment, last operated during Expedition 7, studies the behavior of fluids that change their properties when in a magnetic field. For more information, visit: http://exploration.grc.nasa.gov/inspace/. The next station status report will be issued in the early morning hours on June 2, following the spacewalk, or earlier if events warrant. For more about the crew's activities and station sighting opportunities, visit: http://www.nasa.gov/station.

Expendable Launch Vehicle (ELV)

Mission: Solar Terrestrial Relations Observatory (STEREO)
Launch Pad: 17-B, Cape Canaveral Air Force Station, Fla.
Launch Vehicle: Boeing Delta II
Launch Date: July 22, 2006
Launch Times: 3:11 – 3:13 p.m. and 4:19 – 4:34 p.m. EDT
Technicians are testing individual STEREO systems on both the "A" and "B" spacecraft. Black light cleaning was performed on spacecraft "A." Vertical alignments, as well as installation of the solar array ordnance were completed. The high gain antenna was attached onto the spacecraft's rotation fixture, and the blankets were closed-out. Technicians installed the batteries on the "A" and "B" spacecraft last week. In addition to testing, upcoming work for spacecraft "B" includes solar array installation and integration of the high-gain communications antenna in mid-June. The build-up of the Delta II rocket at Pad 17-B is scheduled to begin on June 1 with the first stage. Pad workers will start to erect the nine solid rocket boosters on June 2. The second stage will be hoisted into position and mated to the first stage on June 20. The crew will raise the 10-foot fairing into the pad clean room on June 21. STEREO will build a three-dimensional, global picture of the sun and study the sun's influence on Earth. For more information, visit: http://www.nasa.gov/stereo. For previous status reports, visit: http://www.nasa.gov/centers/kennedy/launchingrockets/status/2006.

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